

DRAFT

September 2010

TO:

**LAW ENFORCEMENT ADMINISTRATORS /
TELECOMMUNICATIONS MANAGERS**

The California Emergency Management Agency (Cal EMA) Law Enforcement Division and California Interoperability Communications Office (CICO) are pleased to provide you with the updated California Law Enforcement Radio System (CLERS) Plan. Important updates have been made to the plan. The plan now reflects the California Statewide Interoperability Executive Committee's (CalSIEC) role in providing oversight of the system and includes a streamlined application process and new application forms.

An important issue over the next two years for CLERS is that of Narrowbanding. The Federal Communications Commission (FCC) has mandated that all non-Federal public safety licensees operating 25 kHz radio systems in the 150-174 MHz and 421-512 MHz bands (the VHF and UHF bands) migrate to more efficient 12.5 kHz (narrowband) channels by January 1, 2013. In other words, the FCC will no longer allow the use of wideband on VHF and UHF public safety frequencies, including the CLERS channels, from December 31, 2012 on and will not automatically issue new licenses.

Cal EMA will release further information on the transition of interoperability channels from wideband operations to narrowband operations, including effective dates and policy changes, in the near future.

Your input is very important to us. Please email all feedback, comments, and questions on the updated CLERS Plan to Interop@calema.ca.gov.

NOTE: The Law Enforcement Division and CICO strongly encourage all entities licensed to use CLERS channels to apply for a modification to their existing FCC license(s) as soon as possible. This is crucial to comply with the new narrowband licensing requirements and to ensure interoperability with agencies that have already transitioned to narrowband.

Paul Walters
Law Enforcement Division Chief

Michael Crews
Statewide Interoperability Coordinator

DRAFT



California Law Enforcement Radio System (CLERS)

DRAFT

Table of Contents

OVERVIEW	4
SYSTEM MANAGEMENT	4
ELIGIBILITY	4
APPLICATION PROCEDURE.....	5
OPERATIONAL STANDARDS	7
TECHNICAL STANDARDS.....	10
ESSENTIAL INTEROPERABILITY GUIDELINES CHECKLIST.....	11
APPENDIX A: COMPLAINT PROCEDURE.....	12
APPENDIX B: ACRONYM LIST.....	13
APPENDIX C: CLERS REPEATER FREQUENCIES	14
APPENDIX D: CLERS ROUTING MAP	15
APPLICATION	

DRAFT

Overview

The California Law Enforcement Radio System (CLERS) is a microwave interconnected radio repeater system with statewide coverage. It is managed by the California Emergency Management Agency (Cal EMA) and provides point-to-point (fixed base) or dispatch-to-dispatch communications for interagency coordination among state and local law enforcement agencies. CLERS also serves as the primary Emergency Alert System (EAS) for the State and as the alternate alert system for Operational Areas.

Background

CLERS was created in 1952 as an intercity law network for point-to-point communications. During the 1970's, the system was microwave interconnected and expanded statewide. Participating agencies were assigned a discrete number based on their National Crime Information Center (NCIC) code and were thus enabled to call any other participating agency anywhere in the State. A modification in 1991 added equipment to simplify dialing of other stations and to control the statewide Emergency Broadcast System (EBS), now known as EAS.

System Management

Cal EMA provides the CLERS statewide repeater system via the State's microwave intertie for use by law enforcement agencies. The California Statewide Interoperability Executive Committee (CalSIEC) oversees CLERS and advises Cal EMA on the development and supervision of the system.

Within Cal EMA, the responsibility for managing CLERS is shared by two divisions: the Cal EMA Law Enforcement Division and the Telecommunications Branch. The Cal EMA Law Enforcement Division establishes and enforces procedures for participation in, and use of, the system. Cal EMA Law Enforcement Coordinators ensure that the system's frequencies are used properly and in a coordinated manner. The Cal EMA Telecommunications Branch is responsible for technical standards and procedures. The Telecommunications Branch Coordinators assist and advise on technical matters.

Police Chiefs and Sheriffs are responsible for ensuring that applications, licensing, and operations on CLERS comply with the regulations and policies set forth in this document within their agency. Law Enforcement Mutual Aid Regional Coordinators are responsible for the compliance of system operations within each Mutual Aid Region.

Eligibility

Law enforcement entities, as defined by the California Commission on Peace Officer Standards and Training (POST), and agents authorized and designated by such entities are eligible to participate in the CLERS plan.

Agencies that have signed the California Master Mutual Aid Agreement, support other law enforcement agencies during emergencies, and are capable of rendering mutual aid are also eligible to participate in CLERS.

DRAFT

Application Procedure

FCC licenses are acquired by and in the name of the State of California.

Charges are levied on all applicant organizations when seeking a new frequency or making a license change, system modification, or any other technical change which requires an official FCC license modification or transaction to take place.

For more details on the fee structure and process, please visit the Public Safety Communications Division (PSCD) website or contact the Frequency Coordination and Licensing Unit at **(916) 657-6153**

<http://www.cio.ca.gov/PSCD/Services/PubSafety/default.htm>

Fixed Sites

Fixed sites require extensive coordination on the part of the requestor to minimize interference with neighboring jurisdictions. Use of the interoperability spectrum requires oversight and endorsement from the CalSIEC before any license request can be approved.

1	Draft a “letter of intent” (LOI) on your agency letterhead The letter should contain information on the requested channels, proposed site(s) and area of operations. If the system is to serve more than a single political entity, provide additional details such as a list of all individuals responsible for the project.
2	Fill out the license request forms at the end of the plan As needed, contact the California Interoperability Coordinator’s Office (CICO) or Cal EMA TDO for further assistance.
3	Send the LOI and completed form(s) via postal mail or email to the CICO California Emergency Management Agency Attn: California Interoperability Coordinator’s Office 3650 Schriever Avenue Mather, CA 95655 Email: @calema.ca.gov
4	Develop a proposal package The proposal package should include coverage plots, applicable frequencies and channels, and other supporting documents. Supporting documents include Standard Operating Procedures, letters of recommendations or endorsements from neighboring jurisdictions, and/or concurrence from regional frequency coordination groups. The CICO and TDO will be available to assist with the coordination process.

DRAFT

5

Submit proposal package for CalSIEC Planning Area Review and Endorsement

The application proposal package will require an endorsement letter from the requesting agencies respective CalSIEC Planning Area (the table below lists the counties in each Planning Area).

The CICO and TDO will be available to assist with the coordination process.

North	Capitol/Bay	Central	Southern
Butte	Amador	Fresno	Kern*
Colusa	Alameda	Kern*	Imperial
Del Norte	Alpine	Kings	Inyo
Glenn	Calaveras	Madera	Los Angeles
Humboldt	Contra Costa	Mariposa	Mono
Lake	El Dorado	Merced	Orange
Lassen	Marin	Tulare	Riverside
Mendocino	Monterey		San Bernardino
Modoc	Napa		San Diego
Nevada	Placer		San Luis
Plumas	Plumas		Obispo
Shasta	Sacramento		Santa Barbara
Sierra	San Benito		Ventura
Siskiyou	San Francisco		
Sutter	San Joaquin		
Tehama	San Mateo		
Trinity	Santa Clara		
Yuba	Santa Cruz		
	Solano		
	Sonoma		
	Stanislaus		
	Tuolumne		
	Yolo		

**Because it encompasses both sides of the mountain range that separates the Central Valley and Southern California, Kern participates in both Central and Southern Planning Areas.*

6

Forward the CalSIEC Planning Area endorsement letter to the State Interoperability Coordinator

DRAFT

7	<p>CalSIEC Formal Review</p> <p>Following the CalSIEC Planning Area endorsement, the CICO will forward the package to the CalSIEC Standing committees for review.</p> <p>Following the review, the application will go to the CalSIEC chairs for final endorsement.</p> <p>The CalSIEC endorsement letter will be forwarded to the PSCD FCC unit for administrative processing.</p>
8	<p>Program Radios/Equipment</p> <p>Requestors may program channels into radios but may not transmit until final FCC authorization is received.</p> <p>Contact the PSCD FCC Unit at (916) 657-6153 for a status on FCC authorization.</p>

Operational Standards

Permissible Communications

The CLERS repeaters and frequencies are used for official use only transmissions.

All communications on the CLERS system are in accordance with Part 90, Subpart B of FCC Regulations (Public Safety Radio Pool). CLERS participants transmit communications essential to official police activities of the licensee. Unofficial communications on CLERS are prohibited and may result in revocation of licensee authorization.

CLERS is for point-to-point (fixed base) or dispatch-to-dispatch communications only. However, under special circumstance, a one- time waiver may be granted for mobile operations. All inquiries and requests for waivers should be addressed to the Cal EMA LDO (916-845-8911 or warning_center@oes.ca.gov).

Channel Identifiers

Only the Standard California Channel Identifiers are used for CLERS. It is strictly prohibited to assign a local identifier to a CLERS channel.

Monitoring

Base stations are encouraged to monitor CLERS channels at all times. At a minimum, personnel must monitor CLERS channels prior to transmitting to minimize the possibility of interference with communications in-progress.

Identification

Base stations identify themselves by using their agency name along with any other usual identifier. Base stations must use the FCC call sign shown on their CLERS license at least once every 30 minutes or at the end of a contact. For example: "California KVZ 29."

DRAFT

Channel Use Priorities

CLERS use is governed by a system of priorities that must be respected at all times. Priority is given to disaster and emergency operations, urgent operations, special events, and drills, tests and exercises. When a higher priority use is required, all lower priority traffic yields the frequency immediately.¹

- **Priority 1:** Disaster and extreme emergency operations for mutual aid and interagency communications
- **Priority 2:** Emergency or urgent operations involving imminent safety of life or protection of property
- **Priority 3:** Special event control activities, such as a planned event involving the participation of two or more agencies
- **Priority 4:** Drills, tests and exercises
- **Priority 5:** Agency to agency secondary communications.

Notification of Priority Traffic (Priority 1, 2, 3, 4)

- Plain language must be used when clearing a CLERS channel for use in high priority situations.
- Agencies inform other area user agencies when they are involved in high priority usage of CLERS channels by phone, email, or California Law Enforcement Telecommunications System (CLETS).
- Notify the Cal EMA Law Duty Officer (LDO) of high priority usage via phone (916-845-8911), email (warning_center@oes.ca.gov), or CLETS.
- If two or more agencies in close proximity request a similar priority level clearance for simultaneous operations, contact the Cal EMA LDO (916-845-8911 or warning_center@oes.ca.gov) for guidance.

Secondary Communications (Priority 5)

In the absence of Priority 1, 2, 3, and 4 situations, CLERS channels may be used for day-to-day communications as an agency to agency secondary channel. There are specific limitations relative to such use:

- Before using the channel for secondary communications, agencies first monitor the channel to ensure that no higher-priority communications are being conducted on CLERS.
- Use conforms to the operational standards outlined in this plan (identification, call signs, plain language, etc.)
- The channel is immediately vacated if it needs to be used for a Priority 1, 2, 3, or 4 situation.

¹ Please note that this 2010 update of the CLERS plan has changed the original numbering of the Priorities from 1, 2, 3, 3A, 4 to Priorities 1 through 5.

DRAFT

Message Precedence

Message Precedence is a classification system that establishes the priority of message content while a channel is in use – i.e., it helps determine which message has precedence over another on a channel. It is used for both verbal and written message traffic. The order of precedence of messages is:

1. **New Incident:** Messages pertaining to a new incident. Once the new incident is addressed, it no longer has precedence unless it has a higher priority.
2. **Emergency:** Messages involving the imminent safety of life or protection of property, including messages to request supplies, materials or instructions vital to relief of emergency operations.
3. **Priority:** Messages that are official and time-bound, but are not covered in the emergency category. Priority messages may include notice of deaths or injury in a disaster area.
4. **Welfare:** Messages involving the health and welfare of an individual in a disaster area.
5. **Routine:** Messages pertaining to routine operations.

Plain Language

All communications on CLERS are in plain language as radio codes, acronyms, and abbreviations can cause confusion between agencies and disciplines and jeopardize officer safety.

Voice Privacy

The use of CLERS channels for transmission of encoded, encrypted, digital, or scrambled message is prohibited. However, under special circumstances, a one-time waiver may be granted to allow for encryption. All inquiries and requests for waivers should be addressed to the Cal EMA LDO (916-845-8911 or warning_center@oes.ca.gov).

Interoperability Operation

In the event of a public safety Priority 1 or 2 emergency, and in keeping with appropriate FCC Rules, a CLERS channel may be *temporarily* cross-banded through automatic or manual equipment with another channel. A cross-band or use of a gateway switch must be discontinued when the operation requiring its use is finished. Refer to Cal EMA's Statewide Gateway Units Standard Operating Procedure for more information on gateway procedures.

Supervisory Responsibility

Each agency manager and supervisor bears the responsibility for the compliance of operations on CLERS to the CLERS Plan. Violations are reported to Cal EMA who works with each agency's executives to correct reported problems. See Appendix D for the complaint procedure.

DRAFT

Technical Standards

1. CLERS is authorized for base stations only.
2. In order to use the microwave link, base stations are required to use a 16-button Dual-tone multi-frequency signaling (DTMF) encoder/decoder to operate.
3. The decoder segment of the DTMF should be "strapped" or "wired" for your 4-digit NCIC agency code. When properly strapped and interconnected to your transmitter-receiver, the dispatcher will not be bothered by transmissions on the network destined for other agencies in your prefix area. If another agency has need to communicate with your department and transmits your assigned code, the speaker on your CLERS receiver will automatically open and the other agency will call your agency.
4. All of the mobile repeaters have CTCSS installed and you may wish to operate in this mode to monitor local traffic and to communicate with California Highway Patrol. See the Frequency Plan Option Table for CTCSS information.

All technical inquiries about CLERS should be directed to the Cal EMA TDO at 916-845-8911 or warning_center@oes.ca.gov.

DRAFT

Essential Interoperability Guidelines Checklist

- ✓ **OBEY PRIORITIES:** When a higher priority use is required, all lower priority traffic yields the frequency immediately.
- ✓ **USE PLAIN LANGUAGE AT ALL TIMES.**
- ✓ **IDENTIFY WITH FULL AGENCY UNIT DESIGNATOR AND FCC CALL-SIGNS (BASE STATIONS AND MOBILES).**
- ✓ **MONITOR THE CHANNEL PRIOR TO TRANSMITTING.**
- ✓ **USE APPROPRIATE CODED SQUELCH:** Do not use local tones on interoperability channels without the capability of monitoring the mutual aid tone (156.7/\$293) and turning the tone protection off.
- ✓ **USE THE CHANNEL'S STANDARD ID:** Program the standard California channel ID into your radio's display.
- ✓ **DO NOT SCRAMBLE OR ENCRYPT MESSAGES.**
- ✓ **DO NOT PERMANENTLY OR SEMI-PERMANENTLY LINK MUTUAL AID CHANNELS TO EACH OTHER OR TO LOCAL AGENCY CHANNELS.**

Respect the policies and procedures set forth in each interoperability system's plan to ensure the interoperability channels are available for use in emergency situations.

DRAFT

Appendix A: Complaint Procedure

Report all operations on mutual aid channels that are detrimental to officer safety or to the management of an incident, which fail to follow the procedures outlined in this mutual aid plan, which cause interference to other users, or that violate FCC Regulations 90.20 and 90.405.

To report flagrant violations that endanger officer of peace safety, immediately contact the LDO via the California State Warning Center (CSWC) (Telephone: 916-845-8911).

To report interference issues from outside sources and other misuses of mutual aid channels:

1. Attempt to identify the offending station.
2. Contact the chief executive of that department.
3. If the problem persists, contact the Cal EMA LDO via the CSWC (916-845-8911 or warning_center@oes.ca.gov) and relay:
 - The date and time of the problem
 - The circumstances regarding the interference or misuse
 - Information detailing how the misuse interfered with operations or safety
 - Information (identification, call signs, etc.) that would help locate the offending agency.
4. Keep audio logging tapes, tape cassettes, or digital files recording the misuse to send to Cal EMA. [If requested, Cal EMA will return the tape after its investigation.] On receipt of a complaint, Cal EMA will conduct an investigation.

DRAFT

Appendix B: Acronym List

AES: Advanced Encryption Standard

ANSI: American National Standards Institute

Cal EMA: California Emergency Management Agency

CalSIEC: California Statewide Interoperability Executive Committee

CICO: California Interoperability Coordinator's Office

CLERS: California Law Enforcement Radio System

CLETS: California Law Enforcement Telecommunications System

CSWC: California State Warning Center

CTCSS: Continuous Tone-Coded Squelch System

DCS: Digital Coded Squelch

DES: Data Encryption Standard

DVP: Digital voice privacy

DTMF: Dual-tone multi-frequency signaling

FCC: Federal Communications Commission

LDO: Law Enforcement Division's Duty Officer

NAC: Network Access Code

NPSTC: National Public Safety Telecommunications Council

POST: California Commission on Peace Officer Standards and Training

PSCD: Public Safety Communications Division

TDO: Telecommunications Duty Officer

DRAFT

Appendix C: CLERS Repeater Frequencies

Site #	Transmitter		Receiver		Location
	Freq	CTCSS	Freq	CTCSS	
1	154.710	(2) 123.0	155.670	(2) 123.0	MT. DIABLO
2	158.790	(1) 110.9	155.430	(1) 110.9	SANTIAGO PK.
3	155.070	(1) 110.9	159.030	(1) 110.9	WOLF MTN
4	158.790	(3) 131.8	155.430	(3) 131.8	CACTUS CITY
5	155.700	(2) 123.0	154.815	(2) 123.0	HAMAKER
6	155.700	(3) 131.8	154.815	(3) 131.8	ANTELOPE PK.
7	155.700	(1) 110.9	154.815	(1) 110.9	HORSE MTN
8	155.700	(5) 146.2	154.815	(5) 146.2	HOADLEY
9	155.700	(4) 136.5	154.815	(4) 136.5	LIKELY MTN
10	155.700	(1) 110.9	154.815	(1) 110.9	SHAFFER
11	154.710	(1) 110.9	155.670	(1) 110.9	BROCKWAY SUM.
12	154.710	(3) 131.8	155.670	(3) 131.8	JOAQUIN RIDGE
13	155.070	(1) 110.9	159.030	(1) 110.9	BLUE RIDGE
14	155.910	(3) 131.8	158.730	(3) 131.8	GOVERNMENT PK.
15	453.875	(1) 110.9	458.875	(1) 110.9	BLOOMER
16	453.875	(4) 136.5	458.875	(4) 136.5	TELEGRAPH PK.
17	453.875	(2) 123.0	458.875	(2) 123.0	FREMONT PK.
18	453.675	(2) 123.0	458.675	(2) 123.0	MT. LOWE
19	453.675	(3) 131.8	458.675	(3) 131.8	RED MTN (Ventura)
20	453.675	(1) 110.9	458.675	(1) 110.9	CUYAMACA PK.
21	453.675	(4) 136.5	458.675	(4) 136.5	MT BULLION
22	453.875	(3) 131.8	458.875	(3) 131.8	MT TAMALPAIS
(#) The number in parentheses corresponds with the CTCSS tones 1 through 5 from the California CTCSS Plan. 1: 110.9 2: 123.0 3: 131.8 4: 136.5 5: 146.2					

DRAFT

Appendix D: CLERS Routing Map

State of California

CALIFORNIA LAW ENFORCEMENT RADIO SYSTEM (CLERS)



DRAFT